

We Claim:

1 1. A machine readable medium that provides instructions, which when executed by a
2 set of processors, cause said set of processors to perform operations comprising:
3 receiving a packet on a circuit; and
4 provisioning the circuit in response to receiving the packet.

1 2. The machine readable medium of claim 1, wherein the circuit is associated with a
2 listening circuit structure before the packet is received on the circuit, and the circuit is
3 disassociated from the listening circuit structure after the packet is received on the circuit.

1 3. The machine readable medium of claim 1, wherein provisioning the circuit
2 comprises:
3 identifying the circuit;
4 creating a provisioned circuit structure for the circuit; and
5 associating the circuit to the provisioned circuit structure.

1 4. The machine readable medium of claim 3 wherein creating the provisioned circuit
2 structure comprises:
3 retrieving a set of parameters corresponding to the circuit from a database; and
4 populating an empty circuit structure with the set of parameters.

1 5. The machine readable medium of claim 1 further comprising unprovisioning the
2 circuit upon a subscriber ending event.
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1 6. A machine readable medium that provides instructions, which when executed by a
2 set of processors, cause said set of processors to perform operations comprising:

3 configuring a set of circuit as listening circuits;
4 receiving a packet on one of the set of listening circuits;
5 provisioning the one of the set of listening circuits in response to receiving the
6 packet; and
7 processing a set of subsequent packets received on the provisioned one.

1 7. The machine readable medium of claim 6, wherein provisioning the one of the set
2 of listening circuits comprises:

3 retrieving a set of parameters for the one of the set of listening circuits from a
4 database; and
5 provisioning the one of the set of listening circuits with the set of parameters.

1 8. The machine readable medium of claim 6, wherein configuring the set of circuits
2 as listening circuits comprises associating the set of listening circuits to a single circuit
3 structure, this single circuit structure being a circuit structure having an indicator
4 indicating the circuit structure as a listening circuit structure.

1 9. The machine readable medium of claim 6 further comprising unprovisioning the
2 provisioned one in response to a subscriber ending event.
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1 10. A machine readable medium that provides instructions, which when executed by a
2 set of processors, cause said set of processors to perform operations comprising:

3 listening for a packet over a set of configured circuits;
4 receiving the packet on one of the set of configured circuits;
5 identifying the one of the set of configured circuits;
6 signaling a routine that the packet has been detected on the one of the set of
7 configured circuits;

8 retrieving a set of parameters for the one of the set of configured circuits from a
9 database;
10 creating an empty circuit structure for the one of the set of configured circuits;
11 populating the empty circuit structure with the set of parameters, the populated
12 empty circuit structure becoming a provisioned circuit structure; and
13 associating a set of subsequent packets received on the one of the set of listening
14 circuits with the provisioned circuit structure.

1 11. The machine readable medium of claim 10, wherein listening for the packet over
2 the set of configured circuits comprises associating the set of configured circuits to a
3 listening circuit structure.

1 12. The machine readable medium of claim 10, wherein signaling the routine
2 comprises passing the routine the listening circuit structure, the listening circuit structure
3 identifying the one of the set of configured circuits.

1 13. The machine readable medium of claim 10, wherein the database can be a remote
2 database or a local database.

1 14. The machine readable medium of claim 10 further comprising releasing the
2 provisioned circuit structure and listening for a new packet over the one of the set of
3 configured circuits in response to a subscriber ending event.

1 15. A machine readable medium that provides instructions, which when executed by a
2 set of processors, cause said set of processors to perform operations comprising:
3 indicating a circuit structure as a listening circuit structure;
4 associating a set of configured circuits with the listening circuit structure;

5 receiving a packet on one circuit of the set of configured circuits;
6 provisioning the one circuit in response to receiving the packet; and
7 accepting a set of subsequent packets received on the provisioned circuit.

1 16. The machine readable medium of claim 15 further comprising discarding a set of
2 packets transmitted over an unconfigured circuit, the unconfigured circuit not being
3 associated with the listening circuit structure.

1 17. The machine readable medium of claim 15, wherein provisioning the one circuit
2 comprises:
3 identifying the one circuit with a circuit handle;
4 retrieving a set of parameters corresponding to the circuit handle from a database;
5 creating an empty circuit structure; and
6 populating the empty circuit structure with the set of parameters.

1 18. The machine readable medium of claim 17, wherein the database can be a local
2 database or a remote database.

1 19. The machine readable medium of claim 15 further comprising unprovisioning the
2 one circuit and indicating the one circuit as the listening circuit structure in response to a
3 subscriber ending event.

1 20. A network element comprising:
2 a network card having a port to couple a set of circuits; and
3 a computer coupled to the network card, the computer to provision one circuit of
4 the set of circuits in response to receiving a packet on the one circuit.

1 21. The network element of claim 20 further comprising a remote database to store
2 parameters for provisioning the one circuit.

1 22. The network element of claim 20, wherein the computer comprises:
2 a database to store a set of parameters;
3 a memory element to store a listening circuit structure and a set of provisioned
4 circuit structures; and
5 an operating system to associate a set of the set of circuits with the listening
6 circuit structure, and to provision the one circuit.

1 23. The network element of claim 22 wherein to provision the one circuit comprises:
2 to identify the one circuit;
3 to disassociate the one circuit from the listening circuit structure;
4 to create an empty circuit structure;
5 to populate the empty circuit structure with the set of configuration parameters,
6 making the empty circuit structure a provisioned circuit structure; and
7 to associate the one circuit to the provisioned circuit structure.

1 24. The network element of a claim 20 further comprising the computer to
2 unprovision one circuit of the set of circuits in response to a subscriber ending event.

1 25. An apparatus comprising:
2 a port to couple a set of circuits;
3 a memory element to store a listening circuit structure and a set of provisioned
4 circuit structures;
5 a database to store a set of parameters for a subset of the set of circuits; and
6 a computer to provision one of the subset of circuits.

- 1 26. The apparatus of claim 25, wherein the database can be a local or remote
2 database.
- 1 27. The apparatus of claim 25, wherein the computer to provision the one of the set of
2 circuits comprises:
3 retrieving the set of parameters corresponding to the one circuit from the
4 database;
5 creating an empty circuit structure for the one circuit, and
6 populating the empty circuit structure with the set of configuration parameters.
- 1 28. The apparatus of claim 25, wherein the computer provisions one of the subset of
2 circuits in response to a packet being detected on the one circuit.
- 1 29. The apparatus of claim 25 further comprising unprovisioning the one of the subset
2 of circuits in response to a subscriber ending event.
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- 1 30. An apparatus comprising:
2 a port to couple a set of circuits;
3 a memory element to store a set of circuit structures;
4 a storage to store a set of parameters; and
5 a computer to provision one circuit of the set of circuits in response to a packet
6 being received on the one circuit.
- 1 31. The apparatus of claim 30, wherein one of the set of circuit structures is a
2 listening circuit structure.

1 32. The apparatus of claim 30, wherein the storage can be a local or remote storage.

1 33. The apparatus of claim 30, wherein the computer to provision one circuit of the
2 set of circuits comprises:

3 to identify the one circuit;

4 to retrieve the set of parameters corresponding to the identified one circuit from
5 the storage;

6 to create an empty circuit structure for the one circuit, and

7 to populate the empty circuit structure with the set of parameters.

1 34. The apparatus of claim 30 further comprising unprovisioning the one circuit of the
2 set of circuits in response to a subscriber ending event.

1 35. A computer implemented method comprising:

2 receiving a packet on a circuit; and

3 provisioning the circuit in response to receiving the packet.

1 36. The method of claim 35, wherein the circuit is associated with a listening circuit
2 structure before the packet is received on the circuit, and the circuit is disassociated from
3 the listening circuit structure after the packet is received on the circuit.

1 37. The method of claim 35, wherein provisioning the circuit comprises:

2 identifying the circuit;

3 creating a provisioned circuit structure for the circuit; and

4 associating the circuit to the provisioned circuit structure.

